



MINING RESEARCH

WHAT IS THE PUBLIC HEALTH PROBLEM?

- Of all major industry sectors, coal mining has the highest worker fatality rate, more than 6 times the national average.
- The median number of lost days per mining injury is nearly 3 times higher than that observed for all private industry nationally.
- From 1990 to 1999, black lung disease was an underlying or contributing cause of more than 15,000 deaths in the United States, including more than 1,000 deaths in 1999.
- Nearly one quarter of all deaths from silicosis are attributed to mining.
- Approximately 90% of miners are hearing impaired by age 65.
- From 1995 to 2002, there were 142 ground support and 230 powered haulage-related fatalities in mining.

WHAT HAS CDC ACCOMPLISHED?

CDC conducts a research program to address safety and health issues among miners. High priority research programs regarding miners' safety and health focus on specific areas identified as critical by constituents and surveillance data; such areas include hearing loss prevention, dust monitoring and control, injury prevention, and rock fall prevention.

Examples of program in action:

- CDC documented a high prevalence of silica exposures among surface miners, leading the Mine Safety and Health Administration and the mining industry to require preventive measures. Control technologies have been developed and are being evaluated for surface drill and mobile excavation equipment operators to reduce exposure to airborne respirable silica/quartz dust.
- CDC is partnering with several surface and underground mines to assess ergonomic risk factors in mining. Ergonomic interventions are being developed, implemented, and evaluated. Specific examples include interventions to prevent slips and falls while mounting and dismounting vehicles and interventions to prevent jolting and jarring injuries to mobile vehicle operators.
- CDC has developed a software program that provides mine operators with a simple, practical tool to make engineering decisions about the selection and placement strategy of various roof support technologies for underground mines. Matching roof support to mine conditions reduces the likelihood of roof falls.

WHAT ARE THE NEXT STEPS?

The mining sector poses many occupational safety and health challenges for the future. Dust and noise exposures in the mining industries remain unacceptably high. Better controls in both areas must be developed. Mines are expected to become larger and deeper, intensifying the need for a better understanding of rock behavior in these new conditions. The mining work force is approaching an average age of 50 years in many industry segments; the needs of older workers must be accommodated and young replacement workers must be properly trained if injury rates are to be reduced. Effective surveillance, prevention, and control programs, carried out in collaboration with industry, labor, and other governmental agencies, are necessary to ensure the best possible safety and health outcomes for miners. CDC is working on all these fronts to assure that its research and prevention efforts will continue to have a positive impact on the safety and health of the mining work force.

For additional information on this and other CDC programs, visit www.cdc.gov/programs.

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